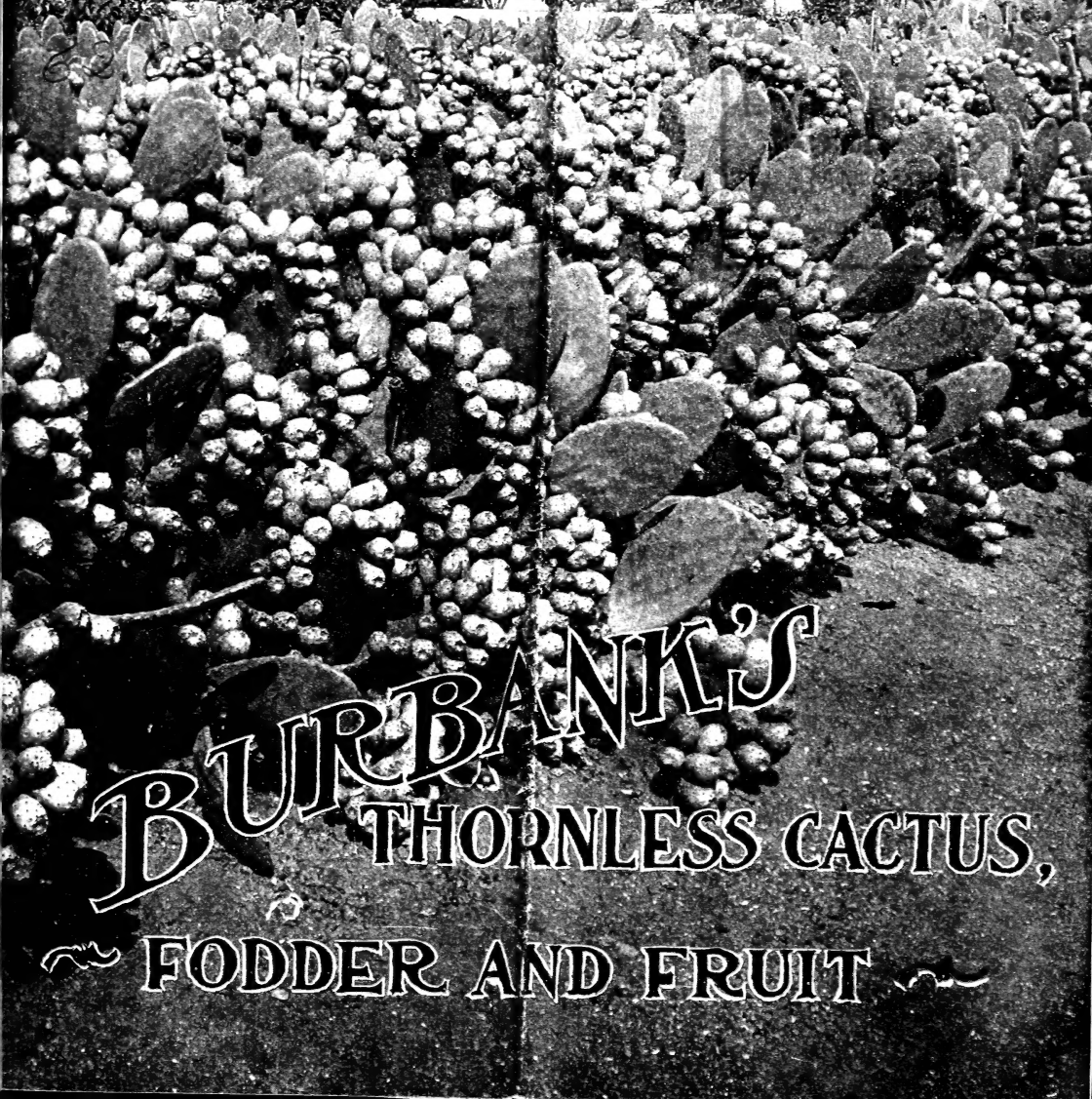


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BURBANK'S
THORNLESS CACTUS,
~ FODDER AND FRUIT ~

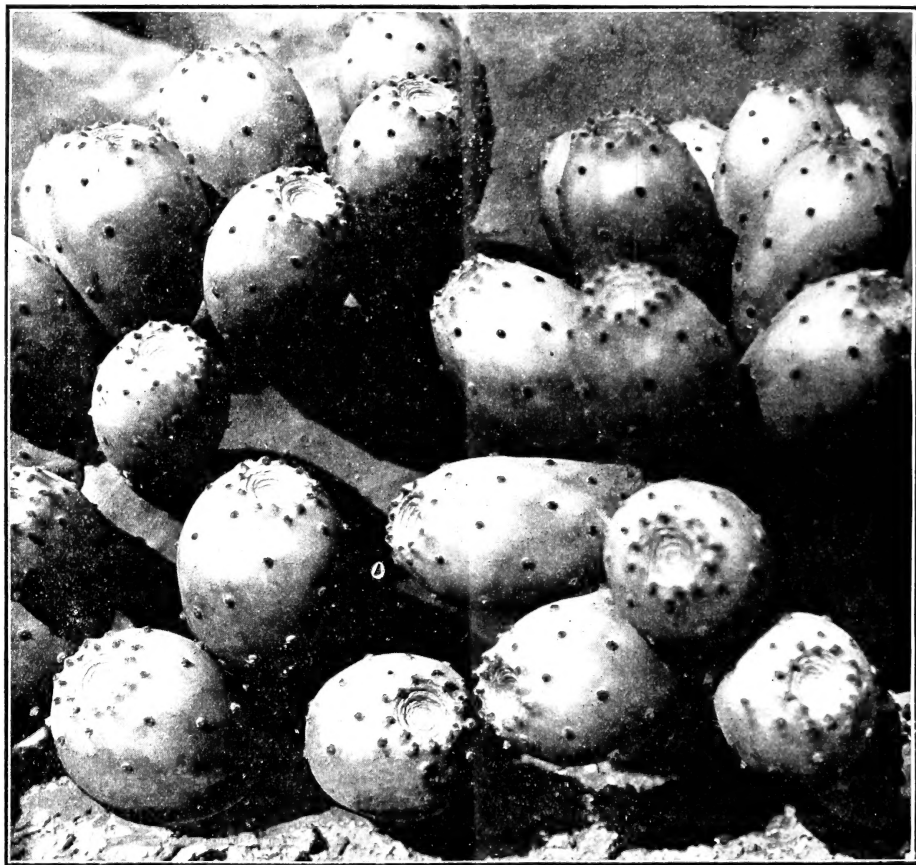


The Burbank Cacti

New Varieties of Fruit and Fodder Producing Plants

Burbank's Thornless Cactus is the result of many years of experimenting. In this labor many different varieties of wild and half wild cactus were employed. Luther Burbank, the great creator of new species of plant life, when he set about attempting to produce a rapid growing, nutritive fodder from cactus, secured from all parts of the world the best varieties of wild and half wild cactus he could find. Some of them were semi-thornless, some had spines, some, bristles or spicules. By a patient, persistent process of crossing and re-crossing, hybridizing and selection, Mr. Burbank, finally, after years of labor, produced several varieties of cacti which are free from spines, and in most cases entirely free from any suggestion of a thorn or bristle, and containing all of the valuable nutritive qualities for which the best varieties of the wild, thorny cactus are noted.

Furthermore, the juices of the Burbank cactus are agreeable, having a flavor similar to that of green peas, and are very palatable to cattle. In this respect the Burbank cactus is unlike many varieties of the semi-thornless or so-



From photograph. Copyright 1908 by Turrell & Miller.
BURBANK CACTUS FRUIT

Four to the pound and 100 tons to the acre. Thornless and delicious.

called thornless cactus of Texas and Mexico whose juices are bitter and often injurious to stock. These new varieties are rapid-growing and reproduce themselves with astounding facility, and are capable, as is the wild cactus, of storing up tremendous quantities of moisture in their cell-structure for periods of drouth, but in far greater quantities than the ordinary wild cactus.

Fodder and Fruit.

To these perfected varieties, seven in number, Mr. Burbank gave his name. In producing them, he discovered in his experiments several varieties of cacti which showed a primary tendency to produce fruit. These were carefully selected and cultivated and from them the Fruiting Varieties of Burbank's Cactus were evolved. Some of these varieties have yielded in excess of one hundred tons of rich, delicious fruit to the acre. The fruit is of various flavors, colors and sizes, all being much larger than the fruit of the wild cactus, the seeds generally much smaller, the pulp sweeter and far more palatable. The sugar contained in some is from ten to sixteen per cent. In some of the fruits the seeds are little, if any, larger than tomato seeds. The hair-like bristles which are to be found on these fruits are very quickly and readily removed with a brush, making them easily handled.

The Burbank Perfected Cactus, known as the thornless cactus, is primarily designed as fodder for cattle. It is, however, very good for any kind of live stock, and experiments have shown that it makes a good table food for man.

The young, tender slabs may be boiled as greens, cut up and fried as egg plant or used as lettuce for salads.

Horses, sheep, goats and poultry relish the Burbank Cactus and do well on



ROW OF BURBANK CACTUS JUST SPROUTING

it. A Californian who has experimented very largely with cactus believes that a combination of cactus and alfalfa hay will solve the fresh milk and butter problem over extensive areas of semi-arid lands.

The Varieties.

The seven varieties of the genuine Burbank Perfected Thornless Cactus are the Santa Rosa, Sonoma, California, Fresno, Monterey, Chico and Guayaquil. Of these the Monterey and Chico are of the Tapuna class and are readily distinguishable from all the other varieties in that the leaves or slabs are greenish white rather than dark green. To the inexperienced eye the Chico and Monterey are almost indistinguishable. Each variety bears at times small, weak spines and soft, cottony spicules, but they are not large, strong, or numerous enough to render them objectionable to the most discriminating animal. The Tapuna class is generally ranked as being a little hardier than the Ficus Indica class to which the Santa Rosa, Sonoma, California and Fresno belong. These four varieties, however, are entirely free from anything resembling a thorn. They are dark green in color with large, luscious leaves.

The Fruiting Varieties now on the market are eight in number: Anacantha, Smith, Myers, Malta, Corfu, Morada, White Fruit and Watson. These varieties, sometimes called the Semi-thornless Cactus, bear some light cottony bristles which generally drop off as the plant matures. They do not produce as much fodder per acre as the Perfected Thornless Cactus, but, when matured, they produce fruit in great abundance.

At the Santa Rosa Nursery, Mr. Burbank weighed the product from a small patch of the Fruit Varieties and it exceeded an estimated weight of ninety

tons to the acre. It is expected that on better soil, such as is to be found at



YOUNG SANTA ROSAS

The Thornless Cactus Farming Company's Los Banos Nursery, the yield of fruit will greatly exceed that obtained by Mr. Burbank.

As to the Yield.

As for the yield of fodder from the Perfected Thornless Cactus, it is



A "CHICO" PLANT—SEVEN MONTHS' GROWTH
largely dependent upon conditions of soil and climate. At the Los Angeles



From photograph. Copyright 1908 by Turrell & Miller.
BURBANK THORNLESS CACTUS
Two-year-old plants

Nursery of The Thornless Cactus Farming Company, the estimated yield from the Santa Rosas, Sonomas, Chicos, Fresnos, etc., has exceeded two hundred tons per acre the second year. Mr. Burbank weighed plants grown on his adobe soil at Santa Rosa which ran one hundred tons to the acre, and he estimated that the mature, three-year-old plants had probably doubled this yield. What the average yield of Burbank's Thornless Cactus may be figured at will be determined after this year, when the plants will be grown in many parts of the civilized world.

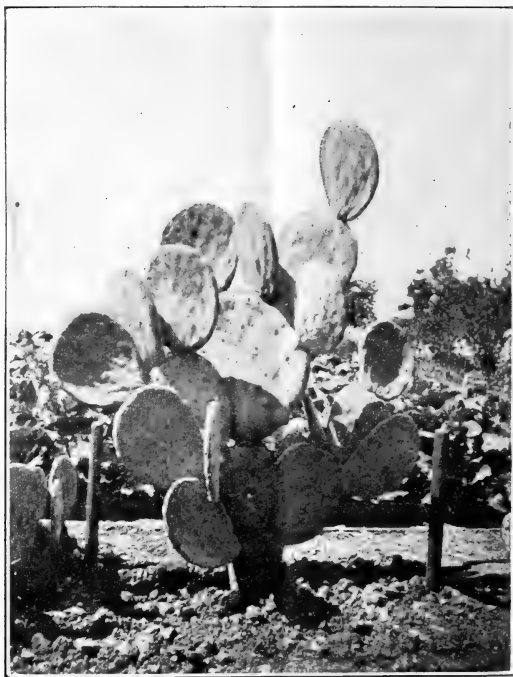
The idea that the Thornless Cactus evolved by Mr. Burbank is a desert plant and will do best under absolutely arid conditions, with no moisture save what it gets from the air is a mistaken one. The Burbank Cactus will do best under the most favorable conditions of soil and climate. It will thrive best on the best soil and it can be made more profitable commercially with some water. However, it does not require and must not have a great deal of water.

"Keep it thirsty" says Mr. Burbank. A slight annual rain-fall, say six to ten inches, will provide the cactus with sufficient moisture to last during long periods of drought.

Twenty thousand plants were set out at The Thornless Cactus Farming Company's Los Angeles Nursery in August, 1908, given one light irrigation the following month and no more up to the date this statement was written, July, 1909. The reproduction from these plants on April 1 period was about 100,000.

Thirty odd tons of the Fruiting Varieties of Burbank's Cactus were set out

at the Los Banos Nursery of The Thornless Cactus Farming Company in October, 1908, and at the date of this writing had not been irrigated and yet had thriven astoundingly.



A FINE MONTEREY PLANT
Center leaf weighed $7\frac{1}{2}$ pounds

A Desert Test.

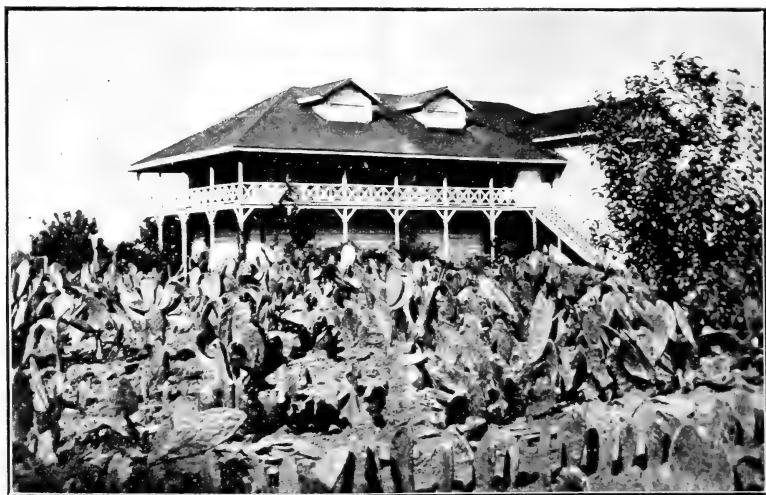
At the Indio Nursery in the heart of the Coachella Valley, several hundred plants were set out in the fall of 1907 and were allowed to stand during the winter and spring and up to June of 1908 without a drop of water. The rain-fall in that valley during that period was less than one-half an inch. The air is absolutely dry, being cut off from the sea-breeze by high mountains; the land lies below sea level and the temperature stands as high as 105 day after day. The wild cactus is not indigenous to this valley nor to the Imperial Valley adjoining it.

And yet, the Burbank Cactus which was tested for these desert conditions, lived and reproduced itself without water; as many as five and six new leaves maturing on each one which was thrust into the ground within a period of six to eight months. At the end of this period, the plants having used up the moisture which they had stored up in their cell structure, began to show signs of deterioration; that is, while they still lived, they no longer grew, and they did not present the fine, fat, healthy appearance shown by neighboring plants in the same field which had been given two or three light irrigations during the same period. Nor did the plants which were left without any water reproduce with anything like the facility and rapidity evinced by those plants which were given occasional irrigation.

This statement, carefully considered, is as fair a one as can be made as to the ability of the cactus to live and grow without water for a certain period, while

at the same time showing honestly that some water is necessary to make it yield profitable returns.

At Mr. Burbank's Santa Rosa Nursery a large cactus plant has been hanging from the corner of his shed since June 20, 1907. It has grown and reproduced



PROPAGATING STATION NO. 2, COPA DE ORO RANCH, LOS BANOS, CAL.
The home of Chas. Jay Welch, President of
The Thornless Cactus Farming Co.

constantly during that period and it has not had one drop of water and no nourishment save what it got from the air. Of course the reproduction and growth would have been much greater had the plant been in the soil during these two years. And

naturally, the individual leaves of this plant are not so fat, green or as succulent as are those of the cactus plants standing in the ground near by.

Some Questions Answered.

A great many questions are asked as to the relative hardiness of the Burbank Thornless Cactus, the Government Cactus, and the wild cactus. Mr. Burbank sums it up by saying that his Thornless plants are a little hardier than the orange, the blue gum tree, the Australian Acacia and the Monterey Cypress but not quite as hardy as the fig. Some of the wild, thorny cactus, which is of little or no value as fodder, will withstand more cold than the Burbank Cactus.

The Thornless Cactus Farming Company does not advocate attempting to grow the Burbank Cactus the year round where the winters become colder than twenty-five degrees above zero, Fahrenheit, although it has withstood a temperature as low as eighteen on several occasions and has frequently shown no injury whatever at a temperature of twenty-two above zero.

The question is frequently asked: "Can the Burbank Cactus be successfully grown as an annual?" It has always been believed by those who have been propagating and handling this remarkable plant, that it may be grown as an annual where there is a heated or growing season of six months or more. This, however, has never been proven, as the plants have never been tested in this way. Mr.

Burbank will not take the responsibility, at this time, of advising summer planting except in territory immediately adjacent to that in which the plants may be grown as perennial.

It is a fact beyond dispute that the Burbank Cactus may be kept out of the



TWO-YEAR-OLD OPUNTIAS
200 tons to the acre.

ground for five or six months and then re-planted with every assurance that it will quickly take root, fatten out, and start to reproducing itself. It is also an established fact that slabs so treated have put out buds within three to five weeks after re-planting and that these buds became mature slabs in a period of five to six

weeks more. Granted these facts, it appears reasonable and logical that a fair tonnage may be gotten from the Burbank Cactus, treating it as an annual where there is a growing season of sufficient duration. The plants, however, must be carefully handled, kept away from moisture while out of the ground, and kept from freezing.

The Thornless Cactus Farming Company has advised all those who wish to attempt to grow the Burbank Cactus as an annual to take only a few plants and test them out under the conditions which they must confront. A great many such experiments will be made this year and next, and it will not be long before some definite information can be given as to what may be expected from the Burbank Thornless Cactus when grown in this manner.

Rewards Care.

It should be remembered, above all other things, that the Burbank Thornless Cactus is a highly sensitive, responsive plant, producing most excellent results when properly handled under proper conditions, and rewarding all the care and attention which it requires. This is, comparatively speaking, infinitely less than is required by any other commercial fodder plant.

The questions are frequently asked: "Do the cattle relish cactus? Will they thrive on it?" For many years the stockmen of Southern Texas have been singeing the thorns off the wild cactus and feeding it to beef cattle. Highly satisfactory results were obtained, it being found possible to fatten a beef steer on a solitary cactus diet. It was also well recognized that the cattle fed on this

kind of food required very little water. In the Hawaiian Islands, cattle are sustained on a cactus diet for six or eight months and are then quickly put in a condition for the market by feeding them a little alfalfa or cotton seed meal to harden them.

All kinds of live stock relish the cactus as soon as they become acquainted with it. Some will refuse to eat it at first but it is an easy matter to teach them to like it. Mr. Burbank says any herbivorous animal from a canary bird to an elephant will eat it and relish it.

The cactus contains much more moisture than alfalfa but has not the same proportion of nutriment, pound for pound. Its yield, however, in tonnage is so much greater that the amount of nutriment to be obtained from an acre of Burbank Cactus will greatly exceed that to be obtained from an acre of alfalfa and the cactus requires infinitely less water and attention. It is generally estimated that three to four tons of cactus are equivalent to one ton of alfalfa in feeding value.

The control of all of the Burbank Perfected Thornless Cactus, and the Burbank Fruiting Varieties of Cactus, on the market today, is in the hands of The Thornless Cactus Farming Company. The first distribution of these plants began June 1st, 1909, and is now proceeding. The second distribution for 1909 will commence in the fall. Orders are being taken for 1910 on a basis of ten per cent cash deposit with the applications. Order applications, cultural instructions and any further information desired may be obtained by writing to

The Thornless Cactus Farming Company.
Los Angeles, California

Order For Luther Burbank's Thornless Cactus

1909 DISTRIBUTION.

Distribution begins July 1, and Shipments will be made thereafter as plants are available in order in which applications are filed.

Date.....

THORNLESS CACTUS FARMING COMPANY,

Merchants Trust Building, Los Angeles, California.

Gentlemen:

I herewith file my application and order for the following Thornless Cactus Plants, of the varieties indicated.

For Burbank's Perfected Varieties

Plants	\$5.00 each	Number of Plants.	Variety.
Order for 5 Plants.....	4.00 each	.....	"Monterey"
" " 10 Plants.....	3.50 each	.....	"Chico"
(These prices are net. Full amount of cash must accompany order. Expenses of shipment to be paid by purchaser.)		.....	"Santa Rosa"
		.....	"Fresno"
		.....	"Guayaquil"
		.....	"California"
25 to 50 Plants.....	\$3.25 each	.....	"Sonoma"
50 Plants or over.....	3.00 each	.....	"Hardy Hybrid"

*A plant of the Hardy Hybrid is a rooted cutting with one or two slabs thereon. A plant of the other varieties is a full-leaf cutting or slab.

For Burbank's Fruiting Varieties

Of these, each purchaser may order one to fifty plants. Prices: \$1.50 per plant, first size; \$1.00 per plant, second size.

Number of Plants.	Variety.	Number of Plants.	Variety.
.....	"Anacantha"	.....	"Corfu"
.....	"Smith"	.....	"Morada"
.....	"Myers"	.....	"White Fruit"
.....	"Malta"	.....	"Watson"*

*Stock limited.

Total number....., amounting to \$.....

Enclosed find Postal Money Order (or draft) for \$....., being the full purchase price of the plants above ordered.

In consideration of the special prices above stated and granted, it is expressly agreed, as a part of this contract, that I will not, either directly or indirectly, sell, give away, exchange, or throw away without first totally destroying the same, any, or any part of, the said plants or any other of such plants, or the increase thereof before the 1st day of June, 1911.

1910 DISTRIBUTION.

For delivery in 1910, (distribution beginning July 1, 1910) any number of plants may be ordered at the same prices as stated above, ten per cent of the purchase price to accompany application. In ordering for 1910, kindly fill out and sign the following blank:

Please accept my order for.....plants of.....

(Burbank's Perfected or Burbank's Improved Fruiting Varieties) for which please find enclosed \$....., being 10 per cent (or full payment) for same.

Name.....

Address.....

BURBANK'S PERFECTED VARIETIES OF THORNLESS CACTUS

"SANTA ROSA" (Ficus indica class)

"This new creation in Opuntias is a strong, compact grower, producing joints (leaves or slabs) more rapidly than any other in Mr. Burbank's whole collection, whether new or old, wild or cultivated, spiny or so-called spineless. The fat, dark green slabs are often two feet long by ten inches wide, smooth and with no thorns and no bristles. The first of its kind. The original plant is only three years old this spring, from a seed, and yet it is six feet high, six and a half feet across.

"Analysis.—Wates, per cent, 94.70; Ash, .96; Protein, .66; Crude Fiber, .75; Starch, etc., 2.88; Fat, .05.

"SONOMA" (Ficus indica class)

"Another new Opuntia which is of the same age (three years from the seed), known as 'Sonoma.' Its growth is more upright, with pale, yellow leaves twenty inches long by ten wide, and of most remarkable thickness, in this respect excelling all others. Like 'Santa Rosa,' it has no thorns and no bristles.

"Analysis.—Water, per cent, 94.66; Ash, 1.23; Protein, .72; Crude Fiber, .59; Starch, etc., 2.71; Fat, .09.

"CALIFORNIA" (Ficus indica class)

"This grand new Opuntia very much resembles 'Sonoma' in its strong, upright growth and light colored leaves, which are twenty-two inches long by about twelve wide, and extremely thick. Spines and spicules, though not absolutely absent, are so rare and so insignificant as to be almost imperceptible.

"Analysis.—Water, per cent, 94.01; Ash, 1.35; Protein, .61; Crude Fiber, .54; Starch, etc., 3.45; Fat, .04.

"FRESNO" (Ficus indica class)

"Still another valuable new creation in Opuntias; this is a cross-bred seedling of Smith, and, unlike its parents and all its seedlings heretofore, has no thorns and no bristles. 'Fresno,' though only two years old from the seed, begins to have leaves eighteen inches long by eight wide, quite thick and dark green. Gives promise of being one of the best new forage and perhaps also fruiting Opuntias.

"MONTEREY" (Tapuna class)

"This class is hardier, generally more dwarfed and even more productive of fruit than the Ficus indica class; the fruit is usually smaller and more egg-shaped, sometimes almost globular. 'Monterey' is

the most rapid-growing Opuntia and has the largest and heaviest pads, slabs or leaves of any of this class. They are nearly circular in outline, pale greenish-white, ten or twelve inches across even on one-year-old plants, and are extremely thick. Not wholly free from spines; a few short ones here and there, but soft and considered harmless; bristles, cottony and insignificant. The slabs have attained a weight of seven and a half pounds. (This plant and the Chico are the most hardy.)

"CHICO" (Tapuna class)

"'Chico' is one of the two best new Opuntias of this class. The plant is an upright, compact grower, with large, smooth, greenish-white pads, which are absolutely spineless and with only small rudimentary bristles. The analysis of Prof. M. E. Jaffa, of the State University, given below, shows its great value for food, the amount of fat and starch especially being a surprise.

"Analysis.—Water, per cent, 92.74; Ash, 1.68; Protein, .58; Crude Fiber, .75; Starch, etc., 4.06; Fat, .19.

"GUAYAQUIL,"

"This new Opuntia originated from some seeds sent Mr. Burbank from Guayaquil, Ecuador. The Opuntias from this source are somewhat more tender than usual, but 'Guayaquil' seems to be as hardy as any of the Barbary fig class; the leaves are unusually long, slender, thick and dark glossy green (eighteen inches long by six wide). In this new variety the spines are absent, and the bristles so reduced as to be harmless.

The strain from which this originated bears large, delicious, yellow fruits, and this new creation, being thornless and of a new type, is of unusual promise horticulturally.

"HARDY HYBRID" (Opuntia Hybrida)

"Hardy, with short bristles. Will continue to grow throughout the year whenever the mercury is above freezing point. Leaves or joints three to six inches long by three to four wide; pale bluish-green in color; will increase in size very rapidly and may extend practical field cactus culture a thousand miles further north than has been possible before. Can be wintered in Alaska if covered. Fruit small, seedy, of crimson color of much better quality than the old Barbary pear, produces abundantly. This cactus should be suitable for sheep or goat pasture in rough, rocky places.

BURBANK'S FRUITING VARIETIES OR SO-CALLED THORNLESS OR SEMI-THORNLESS CACTUS.

"ANACANTHA"

"A tremendous grower, rapidly producing great leaves two feet or more long by six or eight inches wide, quite thick and often weighing six or eight pounds each; two or three of the larger leaves or joints being enough to feed a sheep for a day. No bristles, and only a few short, weak spines, which generally drop off as the plant matures. Fruit late, 4½ inches long by 2 inches in diameter, greenish-crimson; flesh, light yellow; highest quality. Flavor has been compared to a delicious apple. Average 2½ to the pound.

"SMITH"

"Is a strong grower, with rather large leaves or joints, which, as well as the fruit, are generally well supplied with bristles and some spines; a productive variety. Fruit nearly 5 inches long by 2 or 2½ inches through. Skin, flesh crimson; of most excellent quality. Ripens early, and is large and attractive by its crimson color, but rather difficult to pick or handle unless the bristles are first removed with a whisk broom or some other means.

"MYERS"

"Absolutely spineless, and, except in rare cases, totally free from bristles, and these only on the old trunks. An upright but rather slow grower; leaves 16 inches long by 6 wide, very thick and fat. Said to bear large, white, fine, sweet-flavored fruit abundantly. The general appearance of the plant suggests that it may be a natural cross of the Tapuna and Ficus indica types. Stock of plants limited.

"MALTA"

"A good, hardy, rapid grower. Leaves, medium size, 18 inches long by 8 wide; very few short, weak, hair-like spines; bristles almost wholly absent. Fruit nearly 4 inches long by 2 in diameter. Skin yellow, turning to light red when fully ripe; flesh, salmon, with crimson shadings; seeds small; bears abundantly even when quite young. A most desirable variety.

"CORFU"

"Almost no spines, and no bristles. Leaves 15 inches long by 8 wide; thick, pale green. Fruit is delicious.

"MORADA"

"Dark green leaves, 12 inches long by 6 wide, and quite thick; some weak spines and bristles. Average specimens of fruit, three to the pound. Fruit of a reddish color.

"WHITE FRUIT"

"Strong, compact grower; leaves 12 inches long by 7 wide, not very thick; nearly free from spines and bristles. A promising Opuntia for both fruit and forage. Fruit a good keeper; average three to the pound.

"WATSON"

"One of the most vigorous and handsome of the Tapunas; leaves nearly a perfect circle in outline, 10 inches across and quite thick; pale bluish-green; some spines and bristles; most abundantly reproductive. Fruit, size and shape of a hen's egg, bright red, rather seedy, but good. Stock of plants limited.





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